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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,450	07/22/2003	Edison Lao Ting	SVL920030017US1	1449

				EXAMINER
26381	7590	01/25/2006		AHLUWALIA, NAVNEET K

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ART UNIT	PAPER NUMBER
2166	

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/604,450	TING ET AL.
	Examiner	Art Unit	
	Navneet K. Ahluwalia	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _22 July 2003_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-33_ is/are pending in the application.

    4a) Of the above claim(s) _21-33_ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) _21-33_ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _22 July 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _0/20/2006_.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

1.   The application has been examined. Claims 1– 20 are pending in this office

action.

Election/Restrictions

2.   Restriction to one of the following inventions is required under 35 U.S.C. 121:

    I.   Claims 1 – 20 are drawn to manipulating data structure, classified in class

       707 subclass 101.

    II.   Claims 21 – 33 are drawn database accessing and ordering, classified in

       class 707 subclass 7.

The inventions are distinct, each from the other because of the following reasons:

Inventions in group I and group II are related as subcombinations disclosed as

usable together in a single combination. The subcombinations are distinct from each

other if they are shown to be separately usable. In the instant case, invention in group I

has separate utility such as manipulation of data structure. The invention in group II has

separate utility such as database access and ordering. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have

acquired a separate status in the art as shown by their different classification, restriction

for examination purpose as indicated is proper.

During a telephone conversation with Ramraj Soundararajan on 01/18/2006 a

provisional election was made with traverse to prosecute the invention of Group I.

Affirmation of this election must be made by applicant in replying to this office action.

Claims 21 - 33 are withdrawn from further consideration by the examiner, 37 CFR

1.142(b), as being drawn to a non-elected invention.

3.   Applicant is reminded that upon the cancellation of claims to a non-elected

invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one

or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by

a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the
> United States before the invention thereof by the applicant for patent, or on an international application
> by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this
> title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5.   Claims 1 – 7, 9 – 17 and 19 – 20 are rejected under 35 U.S.C. 102(e) as being

anticipated by Ferrari et al. ('Ferrari' herein after) (US 2003/0097357 A1).

With respect to claim 1,

Ferrari discloses a system to order a plurality of nodes associated with entities in a document, said system comprising:

- a node generator parsing said entities in said document and creating a plurality of nodes that represent said entities and relationships that exists among said entities (Figure 14A-C and page 7 paragraph [0090], Ferrari);

- a node grouper grouping said created plurality of nodes into a plurality of regions, each of said regions defining an area within a n-dimensional space (page 17 paragraph [0251], [0258], Ferrari), wherein n is greater than one (Figure 14A-C and page 7 paragraph [0091 - 0092], Ferrari); and

- a formatter for formatting said plurality of regions for storage (Figure 14A-C, 15, page 3 paragraph [0019] and page 8 paragraph [0103], Ferrari).

With respect to claim 2,

Ferrari discloses a system as per claim 1, wherein said regions are node descendant regions (page 4 paragraph [0061-0062] and page 13 paragraph [0146 – 0147], Ferrari).

With respect to claim 3,

Ferrari discloses a system as per claim 1, wherein said formatted regions are stored in one or more pages (page 8 paragraph [0103], Ferrari).

With respect to claim 4,

Ferrari discloses a system as per claim 1, wherein said set of regions are

grouped by said node grouper based upon anticipated access pattern and usage

(+page 8 paragraph [0103] lines 1 – 7, Ferrari).

With respect to claim 5,

Ferrari discloses a system as per claim 1, wherein said node grouper additionally

monitors insertion or deletion of nodes in each of said regions, whereby modifications to

nodes within a particular region affects only said nodes in said particular region, said

modifications causing nesting levels to be created based of a parent level region (page

14 paragraph [0156], Ferrari).

With respect to claim 6,

Ferrari discloses a system as per claim 1, wherein said document is a mark-up

language based document (page 7 paragraph [0088], Ferrari).

With respect to claim 7,

Ferrari discloses a system as per claim 6, wherein said mark-up language based

document is an XML document (page 7 paragraph [0088], Ferrari).

With respect to claim 9,

Ferrari discloses a system as per claim 1, wherein said system is implemented across networks (Figure 24, Ferrari).

With respect to claim 10,

Ferrari discloses a system as per claim 9, wherein said network is any of the following: local area network, wide area network, or the Internet (page 7 paragraph [0088], Ferrari).

With respect to claim 11,

Ferrari discloses a method for ordering a plurality of nodes associated with entities in a document, said method comprising:

- parsing said entities in said document and creating a plurality of nodes that represent said entities and relationships that exists among said entities (Figure 14A-C and page 7 paragraph [0090], Ferrari);

- grouping said created plurality of nodes into a plurality of regions, each of said regions defining an area within a n-dimensional space (page 17 paragraph [0251], [0258], Ferrari), wherein n is greater than one (Figure 14A-C and page 7 paragraph [0091 - 0092], Ferrari); and

- formatting said plurality of regions for storage (Figure 14A-C, 15, page 3 paragraph [0019] and page 8 paragraph [0103], Ferrari).

With respect to claim 12,

Ferrari discloses a method as per claim 11, wherein said regions are node

descendant regions (page 4 paragraph [0061-0062] and page 13 paragraph [0146 –

0147], Ferrari).

With respect to claim 13,

Ferrari discloses a method as per claim 11, wherein said formatted regions are

stored in one or more pages (page 8 paragraph [0103], Ferrari).

With respect to claim 14,

Ferrari discloses a method as per claim 11, wherein said set of regions are

grouped based upon anticipated access pattern and usage (page 8 paragraph [0103]

lines 1 – 7, Ferrari).

With respect to claim 15,

Ferrari discloses a method as per claim 11, wherein said method comprises the

additional step of monitoring the insertion or deletion of nodes in each of said regions,

whereby modifications to nodes within a particular region affects only said nodes in said

particular region, said modifications causing nesting levels to be created based of a

parent level region (page 14 paragraph [0156], Ferrari).

With respect to claim 16,

Ferrari discloses a method as per claim 11, wherein said document is a mark-up language based document (page 7 paragraph [0088], Ferrari).

With respect to claim 17,

Ferrari discloses a method as per claim 16, wherein said mark-up language based document is an XML document (page 7 paragraph [0088], Ferrari).

With respect to claim 19,

Ferrari discloses a method as per claim 11, wherein said method is implemented across networks (Figure 24, Ferrari).

With respect to claim 20,

Ferrari discloses a method as per claim 19, wherein said network is any of the following: local area network, wide area network, or the Internet (page 7 paragraph [0088], Ferrari).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   This application currently names joint inventors. In considering patentability of
the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of
the various claims was commonly owned at the time any inventions covered therein
were made absent any evidence to the contrary. Applicant is advised of the obligation
under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was
not commonly owned at the time a later invention was made in order for the examiner to
consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)
prior art under 35 U.S.C. 103(a).

8.   Claims 8, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over
Ferrari et al. ('Ferrari' herein after) (US 2003/0097357 A1) as applied to claim 1 – 7, 9 –
17 and 19 – 20 above, and further in view of Tip et al. ('Tip' herein after) (US
2003/0018603 A1).

With respect to claim 8,

        Ferrari discloses a system as per claim 1, wherein said system associates post
order traversal numbers with said plurality of nodes, said post order traversal numbers
identifying containment relationships among nodes (page 9 paragraph [0111], Ferrari).

        Ferrari however does not explicitly state the post order traversal as claimed.

        Tip teaches the post order traversal as claimed (the post order traversals allows
the relationship test amongst domains, page 5 paragraph [0114] lines 1 – 10, Tip).

        It would have been obvious to one of ordinary skill in the art of data processing at
the time of the present invention to combine the teachings of cited references because

they are in the same field of hierarchical data structure. Furthermore, the post order

traversal of Tip's system would allow efficient membership/relationship test of Ferraris'

systems domains (page 5 paragraph [0114], Tip).

With respect to claim 18,

Ferrari discloses a method as per claim 11, wherein said system associates post

order traversal numbers with said plurality of nodes, said post order traversal numbers

identifying containment relationships among nodes (page 9 paragraph [0111], Ferrari).

Ferrari however does not explicitly state the post order traversal as claimed.

Tip teaches the post order traversal as claimed (the post order traversals allows

the relationship test amongst domains, page 5 paragraph [0114] lines 1 – 10, Tip).

It would have been obvious to one of ordinary skill in the art of data processing at

the time of the present invention to combine the teachings of cited references because

they are in the same field of hierarchical data structure. Furthermore, the post order

traversal of Tip's method would allow efficient membership/relationship test of Ferrari's

methods domains (page 5 paragraph [0114], Tip).

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Navneet K. Ahluwalia whose telephone number is 571-

272-5636. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Alam T. Hosain can be reached on 571-272-3978. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

> Navneet K. Ahluwalia
> Examiner
> Art Unit 2166

Dated: 01/20/2006

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER